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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/665,648

09/19/2003

Martin Lund

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MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

PHAN, MAN U

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

05/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/665,648

Applicant(s)

LUND ET AL.

Examiner

Man Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/25/06.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. The application of Lund et al. for a "Method and system to provide blade server load balancing using spare link bandwidth" filed 09/19/2003 has been examined. This application is a CIP of 10/454,012 filed 06/04/2003, and is a CIP of 10/454,273 filed 06/04/2003 is now U.S. Patent #6,859,154. Claims 1-25 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks TM, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

Specification

3. Related Applications need to be updated.

The disclosure is objected to because of the following informalities: Under cross references to related applications, page 1 – [1] and [8], the CIP application status needs to be updated.

Furthermore, application S/N 10/454,012 filed 06/04/2003, and S/N10/454,273 filed 06/04/2003 is now U.S. Patent #6,859,154. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Romero (US#2004/0054780) in view of Garnett et al. (US#7,032,037).

With respect to claims 13-15 and 23, the references disclose a novel system and method for controlling the capacity utilization of the servers, according to the essential features of the claims. Romero (US#2004/0054780) discloses a system and method for automatically allocating computing resources of a rack-and-blade computer assembly for meeting quality of service requirements. The method comprises receiving server performance information from an

application server pool disposed in a rack of a rack-and-blade computer assembly, determining at least one QoS attribute (e.g., an aggregate of QoS attributes) for the application server pool, determining that the QoS attribute is below a standard, and allocating for use by the application server pool a blade server from a free server pool. The method may additionally comprise selecting, prior to allocating for use, a blade server from a free server pool to obtain a selected blade server, and preparing, prior to allocating for use, the selected blade server for operation with the application server pool. The method may further additionally comprise reconfiguring a traffic management device associated with the application server pool ([0021]-[0025]). Romero further discloses in Fig. 3 a schematic diagram of the management server containing the rapid deployment system and communicatively engaged to the image repository and to blade servers of an application server pool, in which management server 14, as indicated, communicates with each of the blade servers 34 as well as their associated server agents 35a. A server agent 35a measures performance of the application running on its associated blade server 34a. The measurement may be done at the hardware level, for example, CPU and memory utilization, or at the application level, using application-specific measurements. A standard mechanism such as Web-based Enterprise Management (WBEM) or Systems Network Monitoring Protocol (SNMP) may be used to communicate this information from any server agent 35a to the management server 14. The server agent 35a may also transmit alarms (e.g., SNMP traps) asynchronously to the management server 14. The server agents 34a may contain application-specific components to measure any desired application-level performance ([0046]-[0049]).

However, Romero (US#2004/0054780) does not expressly disclose the capability to perform blade server load balancing functions. In the same field of endeavor, Garnett et al.

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(US#7,032,037) provide a server blade comprising at least one processor and at least one communications port. The communications port may be operable to receive an information message and the processor may be operable to compare the received information message to a predetermined set of possible destinations to select a destination. The communications port may be further operable to transmit the information message to the selected destination. The server blade can be configured as a field replaceable unit. This arrangement provides a load balancer module configured to take the place of a standard server blade within a modular computer system to provide a load balancing service to that modular computer system (See Figs. 1 & 15; Col. 2, lines 5 plus)

It's noted that, Blade server is a clustering type of network server that is characterized by the use of a circuit board enclosure to integrate a cluster of server modules (commonly called "blades"), with all of these server modules providing the same server functionality. In other words, a blade server can respond to a client's request by linking any one of the clustered server modules to the client. In practical implementation, each server module is made into a single circuit board (i.e., blade), which can be easily fitted to the blade server's enclosure to increase the blade server's client serving capacity. Moreover, a blade server is typically equipped with a common management control module for controlling all the operations of the multiple server modules and their shared resources in the blade server. Blade server configurations are particularly efficient because each of the blade servers share centralized resources within the chassis such as fans, power supplies, Ethernet switching, and server management hardware. With respect to server management, a unified management module ("UMM") is configured to perform central management functions for the entire cluster of blade servers.

Regarding claims 16-19, while blade server technology changed the way in which servers were utilized and managed, on the client side (e.g., at the desktop level), things remained essentially the same. That is, each workstation still consisted of a desktop PC coupled, wirelessly or via Ethernet cables, to the "server farm" where the blade servers were stored. Furthermore, blade servers must integrate all their I/O controllers/devices onboard because they do not have an external bus which would allow them to interface to other I/O controllers/devices. Consequently, a typical blade server must provide such I/O controllers/devices as Ethernet (e.g., 10/100 and/or 1 Gb) and data storage control (e.g., SCSI, Fiber Channel, etc.)--all onboard (See Fig. 1 of Garnett et al).

Regarding claims 20-22, 24-25, Garnett further teaches in Fig. 15 a functional block diagram showing the external connectivity of the shelf in Fig. 2, in which Workload distribution management (load balancing) provides operational efficiency benefits to server systems where more than one server is utilised. Load balancing is the process of distributing new connections to a group of servers between those servers in a controlled fashion. By means of such controlled distribution of new connections, the speed of service experienced by a requesting computer can be increased. Load balancing algorithms can work in a variety of ways to attempt to distribute new connections most efficiently. The most simple load balancing algorithm is a "round robin" system whereby a load balancer allocates new connections according to a circular list of available servers. Thus a first incoming new connection is allocated to a given server and each new connection received thereafter is allocated to the next server in the list, returning to the first server when the end of the list is reached (Col. 32, lines 4 plus).

With respect to claims 1-12, they are method claims corresponding to the apparatus claims 13-25 as discussed in paragraph above. Therefore, claims 1-12 are analyzed and rejected as previously discussed with respect to claims 13-25.

One skilled in the art of communications would recognize the need for a load balancing in a multi server platform, and would apply Garnett's novel use of the blade server load balancing algorithm into Romero's system and method for automatically allocating computer resources of a rack and blade computer assembly. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Garnett's server blade for performing load balancing functions into Romero's dynamic adaptive server provisioning for blade architectures with the motivation being to provide a system and method to provide blade server load balancing.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Goldszmidt et al. (US#2006/0129687) is cited to show the method and apparatus for dynamically adjusting resources assigned to plurality of customers, for meeting SLAs with minimal resources.

The Yang et al. (US#2004/0024831) is cited to show the blade server management.

The Chang et al. (US#7,085,961) is cited to show the redundant management board blade server management system.

The Pan et al. (US#2004/0081104) shows the method and system for network switch configuration.

The Bottom et al. (US#2002/0124114) is cited to show the modular server architecture with Ethernet routed across a backplane utilizing integrated Ethernet switch module.

The Garnett et al. (US#2003/0105859) is cited to show intrusion system.

The Chu et al. (US#2004/0264398) is cited to show the method and system for load balancing switch modules in a server system and a computer system utilizing the same.

The Kalkunte et al. (US#2004/0199569) cited method and system for handling traffic for server systems.

The Lund (US#2004/0199567) is cited to show a system and method for integrating multiserver platforms.

The Lund (US#2004/0199568) is cited to show a system and method for communicating between servers using a multiserver platform.

The Lund et al. (US#2004/0160900) is cited to show a system and method for communicating using a multiserver platform.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin, can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

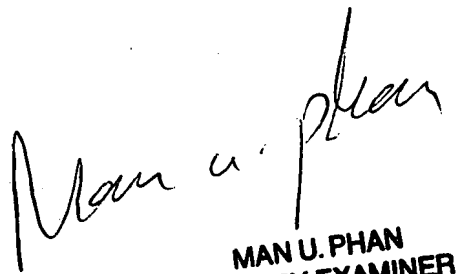
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

05/07/2007.


MAN U. PHAN
PRIMARY EXAMINER